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(54) METHOD AND SYSTEM FOR MACHINE LEARNING BASED ASSESSMENT OF FRACTIONAL FLOW RESERVE

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(57) **ABSTRACT**

A method and system for determining fractional flow reserve (FFR) for a coronary artery stenosis of a patient is disclosed. In one embodiment, medical image data of the patient including the stenosis is received, a set of features for the stenosis is extracted from the medical image data of the patient, and an FFR value for the stenosis is determined based on the extracted set of features using a trained machine-learning based mapping. In another embodiment, a medical image of the patient including the stenosis of interest is received, image patches corresponding to the stenosis of interest and a coronary tree of the patient are detected, an FFR value for the stenosis of interest is determined using a trained deep neural network regressor applied directly to the detected image patches.